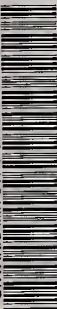


ONTARIO MINISTRY OF ENVIRONMENT



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## OPERATING SUMMARY

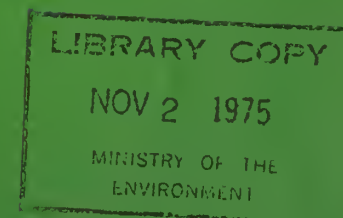
VILLAGE OF

# BOBCAYGEON

WATER TREATMENT PLANT

TD  
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.A56  
B63  
1974  
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**1974**

Bobcaygeon : water supply  
system.

81607



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BOBCAYGEON

WATER SUPPLY SYSTEM

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by  
Plant Performance Unit  
TECHNICAL SERVICES BRANCH  
T. Cross, Director

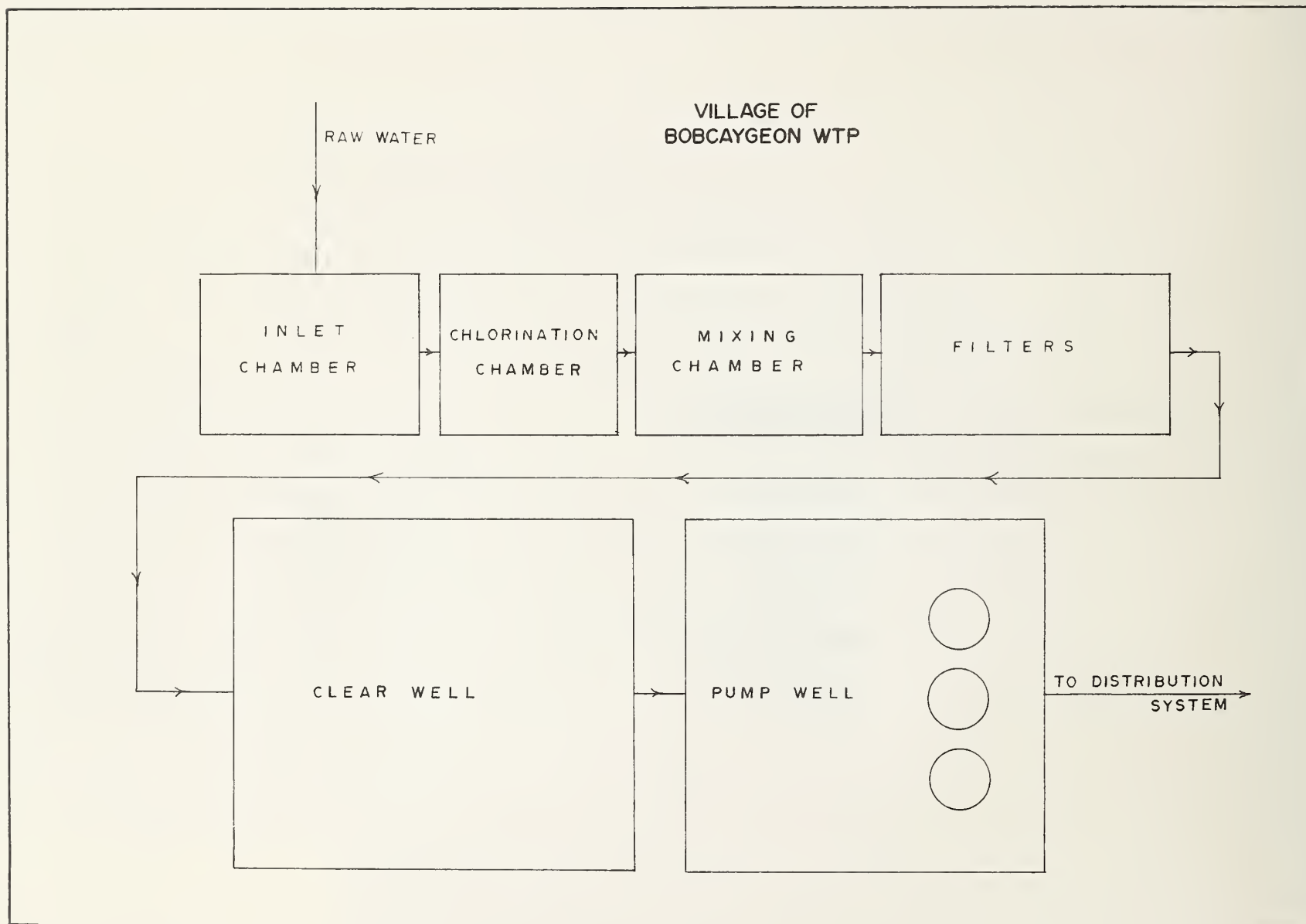


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## DESIGN DATA

PROJECT Vill. of Bobcaygeon WTP

PROJECT NO. 5-0006-66

NOMINAL CAPACITY 200,000 gpd

SUPPLY Big Bob River, upstream  
of dam

### INTAKE

120' of 12" dia ductile iron pipe

### SCREENS

Two woven aluminum wire screens with  
 $\frac{1}{2}$ " openings  
Manually cleaned

### MIXING CHAMBER

Size: 9'2" x 4'3" x 7'3" avg swd (1920 gal)  
Detention: 15 minutes @ 180,000 gpd

### FILTER

Type: Vacuum D.E. Filter  
Size: One 24 plate filter, total area 360 sq. ft.  
Filter rate: 0.5 U.S. gpm/sq. ft.

### FILTER PUMP

Type: Crane Deming  
Capacity: two 100 Igpm @ 40' tdh  
(one is standby)

### CLEAR WELL

One 24'x21'6"x11'3" (36,000 gal)  
One 24'x10'x11'3" (17,000 gal)  
Effective storage is 42,000 gal

### CHLORINATOR

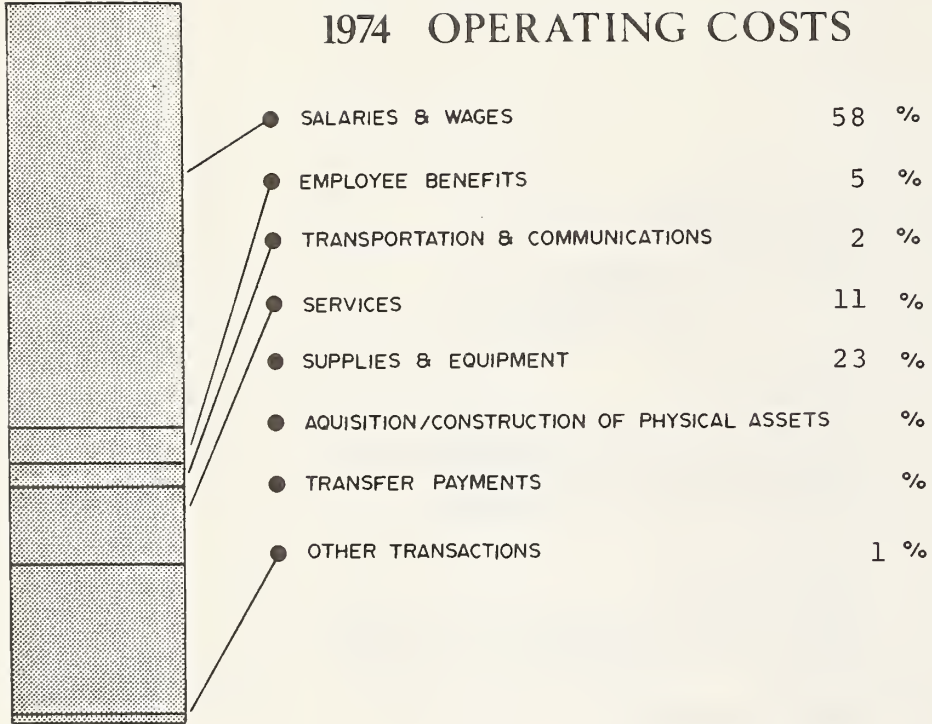
Type: Advance Model 201 gas chlorinator  
Capacity: Two 100 lb/day

### HIGH LIFT PUMPS

Type: Layne & Bowler vertical turbine  
Capacity: Two 150 Igpm @ 126' tdh with 10 hp  
electric motors  
Capacity: One 520 Igpm @ 184' tdh with 54 hp  
ford diesel engine

# ANNUAL COSTS

## 1974 OPERATING COSTS



## YEARLY OPERATING COSTS

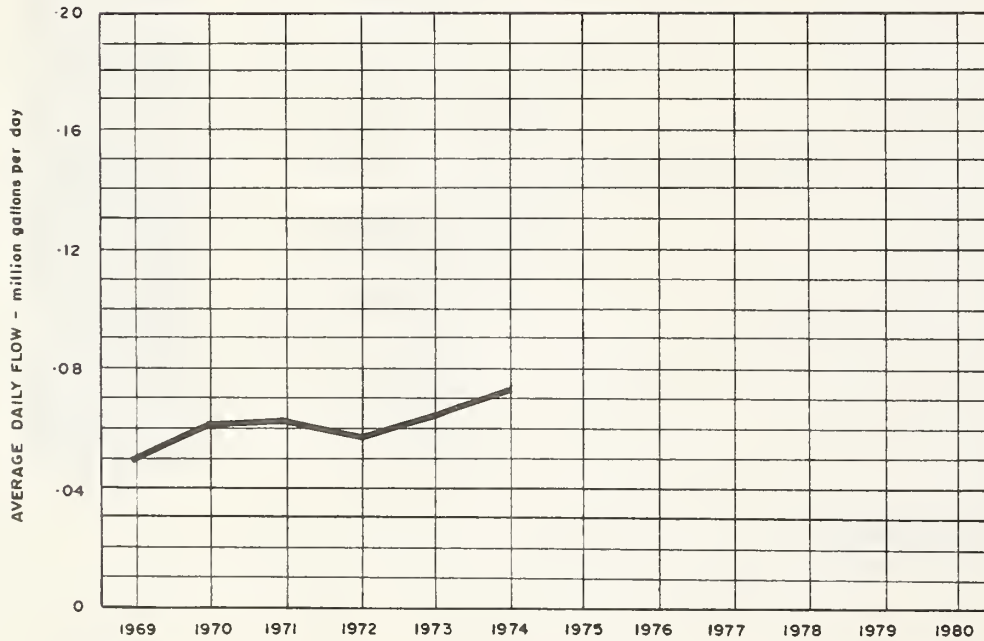
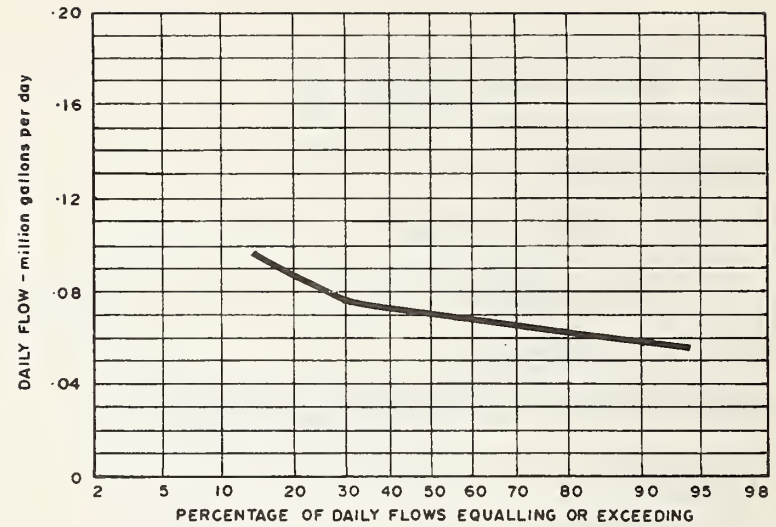
YEAR	WATER TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS
			cents per 1000 gal.
1974	26.5	23479	89



# OPERATING EXPENDITURES

Regular Staff	\$ 12258	\$
Casual (Unclassified) Staff	1254	
TOTAL SALARIES AND WAGES		13512
TOTAL EMPLOYEE BENEFITS		1256
TOTAL TRANSPORTATION AND COMMUNICATIONS		575
Insurance	1225	
Sludge Haulage	930	
Repairs and Maintenance	229	
Other Services	235	
TOTAL SERVICES		2619
Machinery and Equipment	838	
Chemicals	1778	
Utilities	1480	
Other Supplies and Equipment	1285	
TOTAL SUPPLIES AND EQUIPMENT		5381
TOTAL AQUSITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		136
GRAND TOTAL	GRAND TOTAL	\$ 23479

# PROCESS DATA FLOWS



DESIGN CAPACITY 0.20 MGD .

## PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER		FILTER OPERATION			
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE RUN hours	BACKWASH WATER 1000 gal	DIATOMACEOUS EARTH	
											USED pounds	DOSAGE mg/l
JAN	1.74	.056	.065		6.3	50	.46	10	184	.012	460	26.5
FEB	1.67	.060	.069						296	.012	570	34.2
MAR	1.83	.059	.068		1.2	15	.45	<5	112	.020	765	41.9
APR	1.80	.060	.067						154	.020	1150	64.0
MAY	2.01	.065	.091		.8	30	.35	15	120	.027	1850	91.9
JUNE	2.51	.085	.138		1.0	20	.45	15	149	.025	1000	39.8
JULY	3.24	.104	.145						70	.055	1964	60.7
AUG	3.16	.103	.125						24	.124	3900	123.3
SEPT	2.15	.072	.099		3.0	20	.70	5	37	.076	2450	113.7
OCT	2.20	.071	.087						54	.060	1895	86.1
NOV	2.06	.069	.083						120	.024	900	43.8
DEC	2.17	.070	.078		6.4	40	1.90	15	123	.028	794	36.5
TOTAL	26.54									.483	17698	
AVG.	2.21	.073	.145		3.1	29	.72	11	81	.040	1475	66.7

## CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN		3	1			4		13		53		3.1	.5
FEB				1		1		4		54		3.2	.5
MAR				2	1	3		12		73		4.0	
APR			2	1	1	4		16		69		3.8	.5
MAY			1	2		3		12		82		4.1	.5
JUNE				2	2	4		16		114		4.5	.5
JULY		1	1	5		7		28		144		4.4	
AUG					1	1		4		161		5.1	.6
SEPT				1	2	3		12		110		5.1	.6
OCT				3	1	4		16		79		3.5	.6
NOV			1	1	1	2		9		62		3.0	.5
DEC			3	1		4		11		66		3.0	.5
TOTAL		4	9	19	9	40		153		1067			
AVG.	60 (NOTE - Average shown is the GEOMETRIC MEAN)									3 pounds per day		4.0	.5

## WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $\text{CaCO}_3$	6	77	90	68	6	80	93	68	80 - 100
ALKALINITY in mg/l as $\text{CaCO}_3$	6	65	76	53	6	60	71	50	30 - 100
IRON in mg/l Fe	6	.26	.50	.05	6	<.06	.10	<.05	Less than 0.3
CHLORIDE in mg/l $\text{Cl}^-$	6	6	7	5	6	9	11	7	Less than 250
pH in pH units	6	7.6	7.9	7.3	6	7.5	7.8	7.3	7.0 - 8.5



Date Due

TD 227/B63/B63/1974/MOE  
Ontario. Ministry of the  
Environment. Regional Oper-  
ations Division.

Bobcaygeon water supply  
system. Annual operation  
summary. 1974.

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